REMARKS

Reconsideration of this application, as presently amended, is respectfully requested. Claims 1-10 are now pending in this application, new claim 10 having been added by the present Amendment. Claims 1 and 3-8 stand rejected. Claim 9 was allowed. Claim 2 was objected to as being dependent upon a rejected base claim but was indicated allowable if rewritten in independent form.

New claim 10 depends from claim 9 and is allowable by virtue of its dependency thereon.

Request to Withdraw Finality of Office Action

A Request for Withdrawal of Finality of Office Action was filed on November 17, 2005. Briefly reiterating the substance of that Request, claims 7 and 8 were allowed in the previous Office Action mailed June 1, 2005. Claims 7 and 8 are currently rejected under 35 U.S.C. §102(b) as being anticipated by **Norwood** (USP 4,352,376). However, independent claim 7 was not amended in response to the June 1, 2005 Office Action, and claim 8 was amended only to improve form. Therefore, because the rejection of claims 7 and 8 constitutes a new ground of rejection not necessitated by Applicants' amendment of the claims, the finality of the current Office Action is improper.

Accordingly, the Examiner is respectfully requested to grant the Request and withdraw the finality of the present Office Action, changing the status of the present Office Action to "non-final."

Claim Rejections – 35 U.S.C. §102

Claims 1 and 3-8 are rejected under 35 U.S.C. §102(b) as being anticipated by **Norwood** (USP 4,352,376). For the reasons set forth below, this rejection, to the extent it is considered to apply to the amended claims, is respectfully traversed.

The Norwood reference

Initially, it is noted that the Examiner considers the controller 60 disclosed by **Norwood** to correspond to the claimed digital pressure switch (see Office Action, page 2, Item 1).

To better understand the operation of the controller 60, the general operation of the well installation 10 shown in Fig. 1 will be briefly described. As shown in Fig. 1, the well 10 includes an elongate casing 12 extending through the surface of the earth to a strata 14 that forms a pressurized reservoir for oil, gas, water and the like (see col. 7, lines 26-34). The well installation 10 is operated *on a cyclical basis* using a plunger lift arrangement wherein the well is "shut in" for a period of time during which gas pressure elevates within the casing 12 (see col. 7, lines 53-56). At a time when the pressure of gas within the casing 12 has developed sufficiently, a motor valve 34 is caused to open for a predetermined period of time causing a slug of liquid and gas to move past valve 34 via various conduits and eventually into a storage tank 52 (see col. 7, line 62 – col. 8, line 26).

Because the Examiner considers the controller 60 of **Norwood** to correspond to the claimed digital pressure switch, the operation and structure of the controller 60 will be described in detail below. **Norwood** discloses a controller 60 for oil and natural gas well installations that is programmed to control a cyclical operation of the well (see, e.g., col. 8, lines 54-59). The

cyclical operation allows pressure to build up to expel fluids (see, e.g., col. 1, lines 41-45) and is controlled by cyclical actuation of a motor valve 34 (see, e.g., col. 8, lines 59-61). The controller 60 also has an override function wherein production parameters are monitored to override the cyclical control (see, e.g., col. 9, lines 3-7). For example, the controller 60 receives production parameters used to override the cycle control from system monitors such as a switching gauge 70 that monitors casing pressure, a switching gauge 82 that serves to monitor line pressure, and a flow rate switching gauge 90 that measures a differential gas pressure (see col. 9, lines 7-18, 37-40, 47-49, 52-55 and 65-66).

The controller 60 provides timing of the cyclical operation of the well installation 10. The principal operation of the controller 60 is to provide cyclical operation of the motor valve 34. In order to provide a controller 60 for carrying out the cyclical operation of the motor valve 34, pressure responses in the well are monitored and timed and the controller 60 is programmed based on the monitored pressure responses to provide sequentially occurring on and off states for the well 10. See col. 8, lines 54-61. For example, the controller 60 controls the motor valve 34 by applying or releasing at appropriate intervals lower pressure drive gas through a conduit 62 to a diaphragm drive of motor valve 34 (see col. 8, lines 61-65). To permit optimized production for the well 10, the motor valve 34 is closed to shut in the well for an interval of time prior to commencement of a next plunger lift and removal of the gas cap (col. 8, lines 34-38).

The basic operation of the controller 60 is to selectively energize a pair of solenoids to actuate a shuttle valve to drive motor valve 34 to cause driving of the motor valve 34 between open (ON) and closed (OFF) positions (see col. 12, line 67 – col. 13, line 3). The controller 60

includes a keypad 130 via which operator inputs to the controller are entered. Operator inputs to the keypad 130 can control the ON and OFF state of the controller 60. See, e.g., col. 12, lines 40 – 51 and col. 13, lines 27-32. The controller 60 also includes a display having a digital readout 292 to show an operator the time remaining in an ON or OFF period of operation of the motor valve 34 (see, e.g., col. 12, lines 26-30).

The structural aspects of the housing of the controller 60 are shown in Figs. 17-19 of **Norwood**. As shown in Figs. 17 and 18, the controller 60 includes a principal housing component 110 having a cavity 750 in which various components are present. In particular, the cavity includes, among other components, a solenoid actuated shuttle valve 766. The shuttle valve 766 performs several functions, including (1) venting non-corrosive natural gas into the cavity 750 (see col. 36, lines 18-22 and col. 37, lines 20-27); (2) venting gas to the atmosphere to remove pressure from the diaphragm of motor valve 34 (col. 37, lines 27-32); and (3) venting gas to pressurize the diaphragm of motor valve 34 (col. 37, lines 10-15). The cyclical operation of the motor valve 34 is thereby controlled.

Thus, in summary, a valve (motor valve 34) regulating the flow of oil or gas is selectively actuated by a controller 60 based on a pre-programmed control cycle that can be overridden based on monitored parameters, such as monitored casing pressure.

Claim 1

Independent claim 1 has been amended to clarify that the electronic digital pressure switch includes a pressure sensor inside the ventilated housing to detect gas pressure of a gas

supplied to the housing. Support for this amendment is provided in applicants' specification, e.g., page 12, lines 8-11.

Unlike the presently claimed digital pressure switch, according to **Norwood**, the housing 112 of controller 60 does not include a pressure sensor inside the housing 112 to ***detect pressure of a gas supplied to the housing***. Although the controller 60 can control the motor valve 34 based on a pressure detected in a portion of the well (e.g., override control based on pressure detected in the casing 12 by the switching gauge 70), the pressure sensor 70 is not inside the housing 112. In other words, the pressure sensor 70 ***is not inside the housing 112*** and does not detect pressure of ***a gas supplied to the housing 112***.

More specifically, the digital gas controller 60 can detect an electrical signal representing the gas pressure monitored by the switching gauge 70 that monitors the pressure of casing 12. As discussed above, the gas pressure detected by gauge 70 is used to override the programmed cyclical operation of the controller 60, thereby adjusting (i.e., controlling) ***the gas pressure detected in the casing 12***.

Moreover, as noted above, the shuttle valve 766 of the controller 60 performs various gas venting operations. One operation of the shuttle valve 766 is to vent natural gas to the cavity of the housing 112 to create a slight positive pressure within the cavity (col. 36, lines 18-26). However, the shuttle valve 766 does not detect the pressure of a gas supplied to the housing. The shuttle valve 766 is a solenoid actuated shuttle valve. The shuttle valve 766 is cyclically controlled by the controller 60 which selectively energizes a pair of solenoids to actuate the shuttle valve to drive motor valve 34 to cause driving of the motor valve 34 between open (ON)

and closed (OFF) positions (see col. 12, line 67 – col. 13, line 3). As stated in column 36, lines 21-26, the slight positive pressure built up in the cavity is a consequence of the above-described cyclical operation of the shuttle valve 766. The shuttle valve 766 neither detects gas pressure in the housing nor generates an output representing pressure of a gas supplied to the housing.

Accordingly, in view of the above remarks, it is respectfully submitted that claim 1 patentably distinguishes over the cited prior art and defines allowable subject matter. Claims 2-3 are also allowable by virtue of their dependency on claim 1. Reconsideration and withdrawal of the rejection of claims 1-3 under §102 are respectfully requested.

Claims 4 and 7

First, each of independent claims 4 and 7 recites "a display means that digitally displays detected pressures and also digitally displays ON/OFF values of the contact output by switching an operation mode."

Norwood does not disclose or suggest a display that digitally displays *detected pressures*. As discussed above, unlike the claimed invention, the display disclosed by **Norwood** includes a digital readout 292 that shows an operator time information (col. 4, lines 22-23), such as time remaining in an ON or OFF period of operation of the motor valve 34 (col. 12, lines 26-30).

Second, the Examiner appears to be giving the claim language "a contact output that turns ON/OFF according to detected pressures and that allows ON and OFF values to be set" a broad interpretation. In particular, the Examiner appears to be interpreting the contact output to correspond to the motor valve 34 that can be controlled to turn ON/OFF based on detected pressure by the various gauges. Apparently, the pressure values at which the motor valve 34 is

turned ON/OFF can be set in the controller 60, for example, if control is overridden based on detected pressure in the casing 12.

However, **Norwood** clearly does not disclose or suggest digitally displaying the *ON/OFF values of the contact output.* As noted above, the digital display of **Norwood** displays time information and not ON/OFF values of the contact output.

Accordingly, in view of the above remarks, it is respectfully submitted that claims 4 and 7 patentably distinguish over the cited prior art and define allowable subject matter. Claims 5-6 and 8 are also allowable by virtue of their dependency on claims 4 and 7. Reconsideration and withdrawal of the rejection of claims 4-8 under §102 are respectfully requested.

CONCLUSION

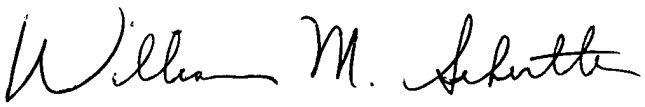
In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



William M. Schertler
Attorney for Applicants
Registration No. 35,348
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

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